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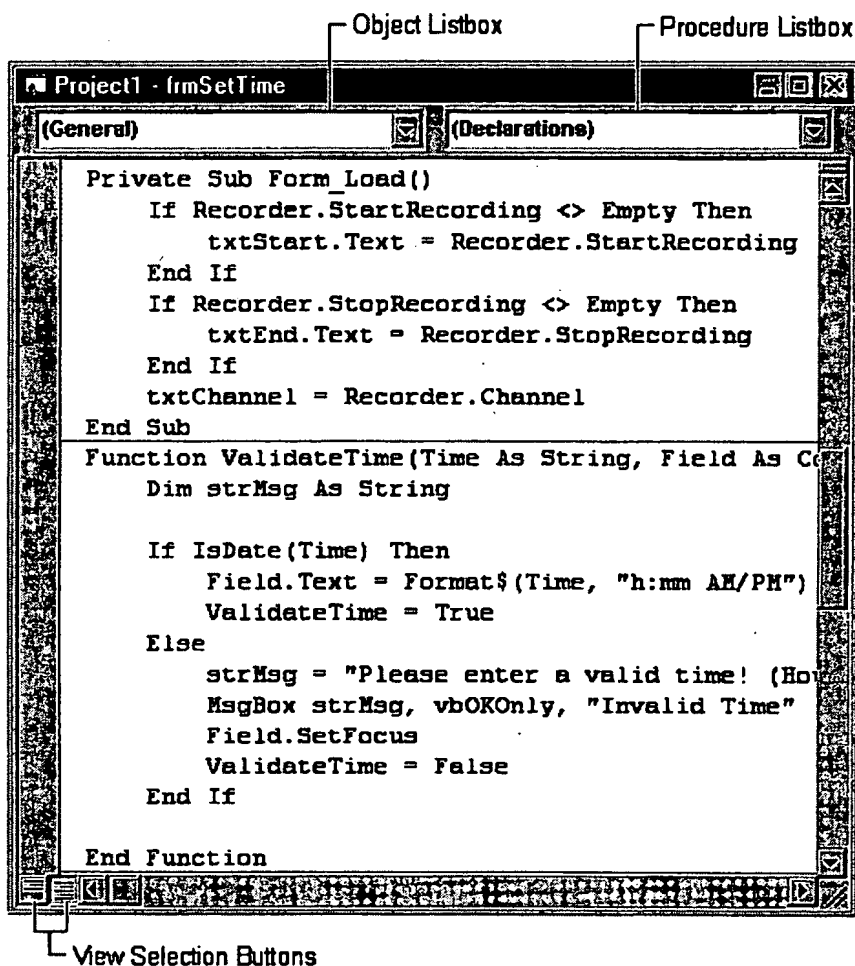
Visual Basic Concepts

Using the Code Editor

See Also

The Visual Basic Code Editor is a window where you write most of your code. It is like a highly specialized word processor with a number of features that make writing Visual Basic code a lot easier. The Code Editor window is shown in Figure 5.4.

Figure 5.4 The Code Editor window



Because you work with Visual Basic code in modules, a separate Code Editor window is opened for each module you select from the Project Explorer. Code within each module is subdivided into separate sections for each object contained in the module. Switching between sections is accomplished using the Object Listbox. In a form module, the list includes a general section, a section for the form itself, and a section for each control contained on the form. For a class module, the list includes a general section and a class section; for a standard module only a general section is shown.

Each section of code can contain several different procedures, accessed using the Procedure Listbox. The procedure list for a form module contains a separate section for each event procedure for the form or control. For example, the procedure list for a Label control includes sections for the Change, Click, and DblClick events, among others. Class

modules list only the event procedures for the class itself — Initialize and Terminate. Standard modules don't list any event procedures, because a standard module doesn't support events.

The procedure list for a general section of a module contains a single selection — the Declarations section, where you place module-level variable, constant, and DLL declarations. As you add Sub or Function procedures to a module, those procedures are added in the Procedure Listbox below the Declarations section.

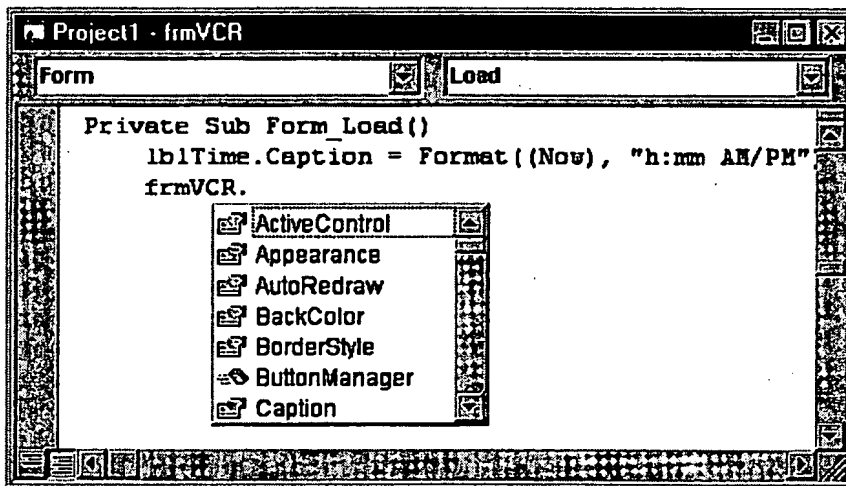
Two different views of your code are available in the Code Editor window. You can choose to view a single procedure at a time, or to view all of the procedures in the module with each procedure separated from the next by a line (as shown in Figure 5.4). To switch between the two views, use the View Selection buttons in the lower left-hand corner of the editor window.

Automatic Code Completion

Visual Basic makes writing code much easier with features that can automatically fill in statements, properties, and arguments for you. As you enter code, the editor displays lists of appropriate choices, statement or function prototypes, or values. Options for enabling or disabling these and other code settings are available on the Editor tab of the Options dialog, accessed through the Options command on the Tools menu.

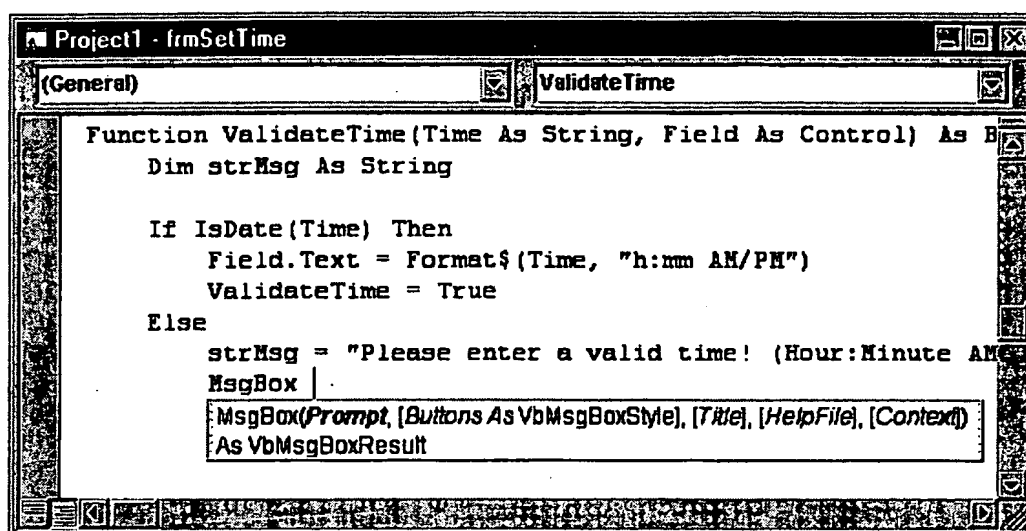
When you enter the name of a control in your code, the Auto List Members feature presents a drop-down list of properties available for that control (Figure 5.5). Type in the first few letters of the property name and the name will be selected from the list; the TAB key will complete the typing for you. This option is also helpful when you aren't sure which properties are available for a given control. Even if you choose to disable the Auto List Members feature, you can still access it with the CTRL+J key combination.

Figure 5.5 The Auto List Members feature



The Auto Quick Info feature displays the syntax for statements and functions (Figure 5.6). When you enter the name of a valid Visual Basic statement or function the syntax is shown immediately below the current line, with the first argument in bold. After you enter the first argument value, the second argument appears in bold. Auto Quick Info can also be accessed with the CTRL+I key combination.

Figure 5.6 Auto Quick Info



Bookmarks

Bookmarks can be used to mark lines of code in the Code Editor so that you can easily return to them later. Commands to toggle bookmarks on or off as well as to navigate existing bookmarks are available from the Edit, Bookmarks menu item, or from the Edit toolbar

For More Information For more information on key combinations to access these and other functions in the Code Editor window, see "Code Window Keyboard Shortcuts."

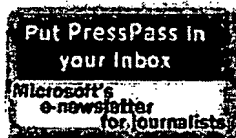
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REDMOND, Wash. - June 15, 1998 - Microsoft Corp. today announced version 6.0 of the Microsoft Visual Basic development system, the world's most popular rapid application development (RAD) tool and member of the Microsoft Visual Studio™ 6.0 development tools suite. New data access features in Visual Basic 6.0 provide graphical, integrated data access to any ODBC or OLE DB data source, and additional database design tools for Oracle and Microsoft SQL Server--based databases. New Web development features bring the easy-to-use, component-based programming model of Visual Basic to the creation of HTML- and Dynamic HTML-based applications. These new features, combined with performance optimizations, simplified application deployment and debugging, and support for Microsoft server technologies, make Visual Basic 6.0 an ideal choice for building scalable enterprise applications.

"Visual Basic sets the standard for rapid application development by enabling developers to create high-performance business solutions quickly," said Paul Gross, vice president of developer tools at Microsoft. "The new data access and Web development features in Visual Basic 6.0 extend its awesome productivity to a new breed of distributed applications."

Integrated Access to Corporate Data

Today, 95 percent of developers using Visual Basic build solutions that access data. With version 6.0, for the first time developers using Visual Basic have a tool that provides integrated data access to any corporate data. The newly integrated Visual Database Tools and new Data Environment Designer in Visual Basic enable the visual design of Oracle and Microsoft SQL Server-based databases, the creation of data access queries, and the sharing of data-aware components. Through enhanced support for ActiveX® Data Objects (ADO), Visual Basic 6.0 makes it easy for developers to access data from almost any store, including messaging servers and proprietary databases. ADO support also enables the creation of applications that rely on

server databases and support mobile and remote users.

"The new data enhancements in Visual Basic 6.0 are unparalleled in the industry, and the integrated support for ADO gives the developers using Visual Basic access to any information source," said Joseph C. Fung, director of technology, PCSI. "Our consultants are finding Visual Basic 6.0 very powerful and productive for building the large-scale client/server systems that our customers require."

Introducing the WebClass Designer and Dynamic HTML Page Designer

Through support for ActiveX Controls and Microsoft Component Object Model (COM) component creation, Visual Basic is one of the most popular tools for building Web components. Version 6.0 extends support in Visual Basic for RAD Web development to the creation of browser-independent Web applications and Dynamic HTML pages. The new WebClass Designer simplifies the creation of Web applications by providing an easy-to-use object model for the Web server. The Dynamic HTML Page Designer enables the creation of Microsoft Internet Explorer 4.0-based applications that combine the richness of Dynamic HTML with the performance and productivity of Visual Basic.

"Visual Basic 6.0 is an exciting new product. The new Web features give developers the power of the code-behind-events metaphor in Visual Basic, complete with all the traditional IDE features that made Visual Basic a success," said William Storage, founder, NerveNet Inc., a Web design and development company. "These features represent a dramatic leap forward in the ongoing evolution of Web programming technology."

Enterprise Application Development

Major enterprises, including the state of Washington, GMAC Commercial Mortgage Corp. and Banker's Trust New York Corp., have built enterprise-level applications with Visual Basic. Version 6.0 adds even more productivity and performance features for enterprise development:

- **Debugging of Microsoft Transaction Server components** from within the Visual Basic environment
- **Package and Deployment Wizard** for simplified application and component distribution
- **Integrated support for developer editions** of Microsoft Internet Information Server, Microsoft Message Queue Server and Microsoft Transaction Server
- **Compiler and run-time optimizations** for improved scalability on multiprocessor machines

- **Language enhancements** for high-performance string manipulation
- **Access to VSAM and DB/2 databases** on IBM AS/400s and IBM mainframes through Integrated Microsoft SNA Server 4.0

Pricing and Availability

Visual Basic 6.0 will be available in Learning, Professional and Enterprise editions as a standalone product and will also be available as part of the Visual Studio development system version 6.0, the comprehensive suite of Microsoft developer tools for the Microsoft Windows® operating system and the Web. Visual Basic 6.0 and Visual Studio 6.0 are scheduled to be available in late summer through software resellers and academic resellers or from Microsoft at (800) 426-9400. Pricing and upgrade policies will be announced at that time. For more information, please visit <http://www.microsoft.com/vbasic/>.

About Visual Studio

The Microsoft Visual Studio 6.0 development system Professional Edition is a comprehensive suite of industry-leading development tools for building business applications for the Windows NT® Server operating system, including client/server, multitier and Web-based solutions. Visual Studio 6.0 Professional Edition features Visual Basic 6.0, the Visual C++® 6.0 development system, the Visual J++™ 6.0* development system for Java, the Visual InterDev™ 6.0 Web development system, the Visual FoxPro® 6.0 database development system, Windows NT Option Pack and the Microsoft Developer Network (MSDN™) Library CD-ROM.

The Visual Studio 6.0 Enterprise Edition is the complete suite for rapidly building scalable enterprise solutions. The Enterprise Edition comes with all the components of the Professional Edition and also includes key enterprise and team development features designed to help developers rapidly build scalable distributed applications that can be easily integrated with existing enterprise systems and applications. More information on Visual Studio 6.0 is available at <http://www.microsoft.com/vstudio/>.

Visual Studio 6.0 is scheduled to officially launch Sept. 2, 1998, at Developer Days '98. For more information on this conference, visit the Developer Days Web site at <http://www.microsoft.com/devdays/>.

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products and services for business and personal use, each designed with the mission of making it easier and more enjoyable for people to take advantage of the full power of personal computing every day.

* Visual J++ 6.0 can be obtained through enclosed voucher when available.

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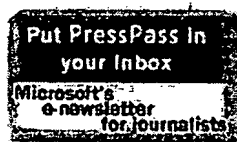
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REDMOND, Wash. - Feb. 3, 1997 - Microsoft Corp. today unveiled the Microsoft® Visual Basic® programming system version 5.0, Professional Edition, the latest version of the world's most popular rapid application development (RAD) tool. Visual Basic 5.0 features a number of significant performance and productivity enhancements that will help make developers more efficient and end-user solutions faster and more flexible. Advanced features such as native code compilation, high-speed database access, and an improved development environment make Visual Basic 5.0 the most powerful version to date. In addition, the component creation capabilities of the ActiveX™ technologies in Visual Basic 5.0 will allow the more than 3 million developers using Visual Basic to quickly create component-based applications targeting the Internet, intranet and traditional client/server environments.

"It has been a long time in coming, but the Industrial Revolution of software is finally upon us," said Bill Gates, chairman and CEO of Microsoft. "Specialization of resources, standards for interchangeable parts, and streamlined assembly tools have been used in other industries for hundreds of years to speed the development of highly complex products. Despite their ubiquity, application of these concepts to the modern software industry is just beginning. Visual Basic 5.0 advances this trend considerably by finally making it easy for millions of developers to create and assemble high-performance, broadly reusable ActiveX components."

ActiveX Control Creation With Visual Basic 5.0

ActiveX Controls are compact, reusable software components that can be integrated into and reused in a large range of products that include Microsoft Internet Explorer, Office 97, the Visual C++® development system and the Visual FoxPro™ database management system. More

than 250,000 developers are currently building ActiveX Controls using the freely downloadable version of Visual Basic 5.0, Control Creation Edition.

Visual Basic 5.0 Delivers up to 2,000 Percent Performance Gains Over Visual Basic 4.0

Visual Basic 5.0 delivers unmatched performance gains over any rapid application development tool in its class. Microsoft has included several key features in version 5.0 that deliver performance gains of up to 2,000 percent over version 4.0, including native code compilation. Developers can compile applications and components into native code by making optimal use of Microsoft's award-winning compiler technology. For compute-intensive operations, Visual Basic 5.0 is up to 20 times faster than Visual Basic 4.0. In addition, with the enhanced forms technology and ActiveX Controls, forms load up to 17 times faster - a critical requirement for GUI-intensive applications.

"With the native code compiler, the performance of applications created in Visual Basic 5.0 is unprecedented by any major RAD tool. It has enabled us to build large-scale applications in record time," said David W. Hanna, president and CEO of State of the Art, a commercial financial and accounting software vendor. "Using Visual Basic 5.0 has given us a competitive advantage, allowing us to significantly reduce time-to-market."

Enhanced Internet Functionality

Visual Basic 5.0, with Active Document technology, will enable developers to convert existing Visual Basic-based applications or create new applications that can be dynamically delivered over the Internet or intranet with a browser. A user can launch an application simply by entering a URL. This technology guarantees that users are running the most up-to-date version of their application. The developer need only install the application once on the server, thus reducing deployment and client-side maintenance costs.

Enhanced Features Promote Ease of Use and Productivity

A key design goal for Visual Basic 5.0 was to improve developer productivity and ease of use. Through a number of productivity enhancements, Visual Basic 5.0 maintains its lead as the most productive tool to create applications:

- **IntelliSense.** Microsoft's IntelliSense™ technology dramatically reduces programming time while reducing coding errors. These new features "anticipate" developers' actions by providing them with

a nonobtrusive, point-and-click list of values that can be logically typed at a particular point. Visual Basic 5.0 significantly reduces the need to memorize syntax, search for parameters or learn new object models.

- **Intelligent development environment.** The redesigned development environment of Visual Basic 5.0 includes dozens of enhancements to the forms package, code editor, object browser and debugger. The development environment is shared across all editions of Visual Basic, including Visual Basic for Applications hosts such as Microsoft Office 97 and the more than 100 products that have licensed the Visual Basic for Applications technology.

Extensibility

Visual Basic 5.0 adds expanded extensibility through a fully exposed object model, giving programmers access to products from the world's largest pool of third-party vendors. These vendors include the more than 600 companies producing more than 2,000 commercially available ActiveX Controls and add-ins.

Flagship Product of Visual Studio 97

Visual Basic 5.0 is Microsoft's flagship product for its recently announced developer tools suite, the Visual Studio™ 97 development system. Visual Studio 97 is a comprehensive suite of Microsoft development tools for building client/server, multitier and Web-based solutions. Visual Studio 97 will include Visual Basic 5.0, Visual C++ 5.0, the Visual J++™ development tool version 1.1, the Visual InterDev™ Web application development system version 1.0 and Visual FoxPro 5.0. Microsoft will release both a Professional and Enterprise Edition of the suite, which is scheduled to be available March 19, at Microsoft Developer Days 97.

Availability and Additional Information

Microsoft Visual Basic version 5.0, Professional Edition is scheduled to be available in March 1997. Users who acquire Visual Basic 4.0, Professional Edition after Jan. 27, 1997, are eligible for a free upgrade to Visual Basic 5.0 (shipping and handling charges apply). For more information on the Visual Basic family of products, including Visual Basic 5.0, Professional Edition, third-party licensing for Visual Basic for Applications, and the Control Creation Edition, visit the Microsoft Web site at <http://www.microsoft.com/vbasic/>

Mastering Visual Basic 5.0 Development

For developers who need to learn Visual Basic 5.0

quickly, Microsoft also announces the eighth title in its award-winning Mastering series, Mastering Visual Basic 5.0 Development. This product contains more than 40 hours of interactive multimedia technical instruction designed to teach the experienced developer how to build custom client/server and Internet solutions using the new features of Visual Basic 5.0. With Mastering Visual Basic 5.0, developers can expect to learn and complete projects such as building multiuser database applications using the Microsoft Jet database engine, creating ActiveX code components, building ActiveX Controls and ActiveX Documents, and developing Internet-aware applications. For more information on the Mastering series titles, visit the Mastering Web site at <http://www.microsoft.com/mastering//>.

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